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GREEK AND ROMAN WEATHER LORE OF TWO DESTRUCTIVE AGENTS, HAIL AND DROUGHT¹

I. INTRODUCTORY

During the last few years considerable material has been published on Roman farms and Roman farming². The subject is deserving of thorough study by some specially equipped scholar. This paper, which is primarily intended to be a continuation of my studies of Greek and Roman weather lore³, is also incidentally a contribution to the growing literature on farm life. In previous papers I devoted not a little space to agricultural weather signs and lore⁴.

Had departments of agriculture existed in antiquity, they would probably have tabulated the annual losses

caused by hail and drought and would have concluded with recommendations of ways by which to lessen their destructiveness. The figures would have been interesting⁵, but, if we had a chance to exchange for a series of government reports our present scattered records of the ravages of hail and drought and the struggle against them in many countries through many centuries, I should vote against the exchange. Our extant records are personal; they reveal the thoughts and the feelings of the people as they watched their hopes and their crops maturing or being blasted by the elements.

I have had frequent occasion in previous papers to mention both hail and drought. In this paper I shall repeat only such items as are necessary for a unified and comprehensive picture. Cross-references will be given to other pertinent passages.

II. HAIL

A RELENTLESS THOUGH IRREGULAR VISITOR

The crops of the farmer have always been exposed to peril. They have ever been in danger from insects, diseases, and the elements, and from the ravages of armies, but among the agricultural population of Greece and Italy in antiquity there was no greater source of anxiety than hail. The products of thrift and toil might be destroyed in a few minutes by pelting missiles from the clouds. One visitation might make the difference between sufficiency and want in a farmer's family. From planting to harvest the menace of hail was ever present. Hail was *dira*⁶, *horrida*⁷, *immitis*⁸, *δολερος*⁹, *ἀτρηπη*¹⁰. It was an evil against which foresight proved of little avail¹¹. Prayer and magic were the only resources left; even they did not always provide protection. Fortunately, unlike drought, hail ravaged comparatively small areas, so that it never caused nation-wide calamity and suffering, except when it was one of the seven plagues of Egypt¹².

"Hail regions" are often spoken of—districts where hail is said to be common. There are such regions; the lay of the land makes air currents which are favorable to the creation of updrafts that make violent thunderstorms. In addition, the topography of hail regions favors the presence of cold air levels that are not too high¹³.

Such a hail region was a field that belonged to Greg-

¹All these articles have appeared in THE CLASSICAL WEEKLY, as follows: An Animal Weather Bureau, 14 (1921), 89-93, 97-100; The Folk Calendar of Times and Seasons, 16 (1922), 3-7; The Plant Almanac and Weather Bureau, 17 (1924), 105-108; Magic and the Weather in Classical Antiquity, 18 (1925), 154-157, 163-166; The Classical Astral Weather Chart for Rustics and Seamen, 20 (1926), 43-49, 51-54; Greek and Roman Weather Lore of the Sun and the Moon, 22 (1928), 25-31, 33-37; Clouds, Rainbows, Weather Galls, Comets, and Earthquakes as Weather Prophets in Greek and Latin Writers, 23 (1929), 2-8, 11-15; Greek and Roman Weather Lore of Winds, 24 (1930), 11-16, 18-24, 25-29; Classical Weather Lore of Thunder and Lightning, 25 (1932), 183-192, 200-208, 212-216; Weather Lore of the Sea in Greek and Latin, 27 (1933), 1-6, 9-13, 17-22, 25-29.

²The most important parts of this material (see note 3, above) are to be found in THE CLASSICAL WEEKLY under the captions Farming Occupations, 16.5 D-6 B; Farming Operations, 17.107 A-C; The Farmer and the Winds, 24.20 C-21 C; Thunder and Vegetation, 25.201 A-203 B. Many more items are given in the paper called The Classical Astral Weather Chart for Rustics and Seamen, 20.43-49, 51-54.

³It has been estimated that in 1927 the loss caused by 208 hailstorms in the United States of America amounted to \$15,000,000.

⁴See E. E. Free and Travis Hoke, Weather: Practical, Dramatic and Spectacular Facts about a Little Studied Subject, 150 (New York, Robert M. McBride and Co., 1928).

⁵Horace, Carmina 1.2.1; Prog. Rel. 3.81, 115 (Breysig, 49, 51).

⁶Vergil, Georgics 1.449. ⁷Prog. Rel. 3.65 (Breysig, 48).

⁸Euripides, Troades 78.

⁹Orpheus Lithica 597 (see note 41, below).

¹⁰Compare Xenophon, Oeconomicus 5.18. Of course, vines were provided with strong supports to help them endure storms. According to Geoponica 5.45.1 a hailstorm after late pruning might affect the quality of the wine.

¹¹Exodus 9.19-34.

¹²Free and Hoke, 152-153 (see note 5, above).

ory of Tours¹⁴. Year after year hail so devastated it that no produce was left upon it. Finally he took some holy wax from candles which he had brought back with him after visiting the tomb of St. Martin and placed it at the top of the tallest tree in his vineyard. After that day storms never visited his land, but passed by as if in fear.

THE DESTRUCTIVENESS OF HAIL

Perhaps no one has epitomized better than Columella¹⁵ the devastation caused by hail:

saepe ferus durus iaculatus Iuppiter imbris,
grandine dilapidans hominumque bouisque la-
bores . . .

On reading these verses an ancient Roman would have seen in his mind's eye whole fields of grain and vegetables utterly ruined and the ground beneath olive groves covered with fruit¹⁶. Pliny the Younger would have needed no commentary upon them, for a hailstorm once destroyed all the produce on his estate in Tuscany¹⁷. In the year 373 (?) the inhabitants of Nazianzus were brought to the depth of misery when a series of misfortunes was climaxed by a hailstorm which destroyed their vines and their ripened crops¹⁸. It left the earth in a sad plight, as if its beauty had been sheared off¹⁹.

The famous medieval work on witchcraft, the *Malleus Maleficarum*, says²⁰ that

. . . in the diocese of Constance, twenty-eight German miles from the town of Ratisbon in the direction of Salzburg, a violent hailstorm destroyed all the fruit, crops and vineyards in a belt one mile wide, so that the vines hardly bore fruit for three years.

Shelley does not exaggerate when he represents a cloud as saying²¹ "I wield the flail of the lashing hail".

The constant fear under which the owner of a vineyard lives is shown by the following conversation between an English woman and an Italian peasant²²:

"The vines look fine," I said.

"Yes, signora, there will be many grapes this year—but of course—when the hail comes . . ." he shrugged his shoulders. "Every year it comes, in July or August, and the crops are ruined . . ."

"But not *always*?" I asked.

"Every year, signora, it hails not only once, but sometimes twice, and what isn't destroyed by the first storm

¹⁴De Miraculis S. Martini 1.34 (Migne, P. L., 71. 937).

¹⁵10.329-330.

¹⁶Compare Horace, *Epistulae* 1.8.4-5, *Carmina* 1.2.1-2, 3.1.29; Ovid, *Fasti* 5.322 *florabant segetes: grandine laesa seges <est>*; *Vegoia* (see below, at the end of this note), as quoted by F. Blume, K. Lachmann, and A. Rudorff, *Die Schriften der Römischen Feldmesser*, 1.351 (Berlin, G. Reimer, 1848): *Fructus saepe ledentur decutienturque imbribus atque grandine . . .*; Philostratus, *Heroica* 77; *Prog. Rel.* 3.140-142 (Breytag, 52); Minucius Felix, *Octavius* 5-13. Theophrastus says (*Historia Plantarum* 4.14.1) that wild trees become liable to disease after being smitten by hail at any time from the budding to the blossoming period. Pliny (18.278; compare 17.222) describes hail as a *maior vis*, one of the greater forces of nature. The words *χαλαζοκόπια* and *χαλαζοκόπια*, as used by Theophrastus, *De Causis Plantarum* 5.8.2-3, are vivid commentaries on the power of hail.

On *Vegoia* see W. H. Roscher, *Ausführliches Lexikon der Griechischen und Römischen Mythologie*, under *Vegoia*, 6.172-173.

¹⁷*Epistulae* 4.6.

¹⁸Gregory Theologus, *Oratio* 16 (15) (Migne, P. G., 35.933).

¹⁹*Ibidem* (Migne, P. G., 35.941).

²⁰*Malleus Maleficarum*, Translated, With an Introduction, Bibliography, and Notes, by the Rev. Montague Summers, Part II, Question 1, Chapter 15, page 148 (<London>, John Rodker, 1928).

²¹"The Cloud."

²²<Miss> Tony Cyriax, Among Italian Peasants, 42-43 (New York, Dutton <1919>). <For a review, by Professor W. B. McDaniels, of this book see THE CLASSICAL WEEKLY 19.229-230. C. K. >

is done for by the second . . . but sometimes it is not so bad, it depends on the wind. Last year only one-third of the crops were spoilt down here, but up at the fields by Campià everything was devastated. The storm is usually worst up there. You should see it, the grapes are torn from the vines and strewn on the ground, whole bunches of them, and the leaves are wrenched off, and the plants stand naked. They all suffer, the olives and the maize too. In ten minutes it is all spoilt. Goddam,' he added fiercely in English.

In spite of a procession held to avert it a hailstorm may come and wreak terrible damage, as we may see from the words of an eyewitness²³:

I saw the devastated terraces of Campià and walked down the road past the fontana to San Lorenzo. Everywhere the same miserable spectacle. Half-naked vines with withered leaves scattered round about, grapes on the ground, often whole bunches of them. The edges of the torn and perforated leaves, still left on the plants, were turning brown and every grape that had been hit by a hailstone showed its bruise. The maize plants were broken, and the long leaves hung in ribbons, as if they had been combed. All the plants had the most bedraggled appearance. In places the road was thick with olive leaves and little black olives.

All this havoc had been done in ten minutes, if indeed, the storm had lasted as long as that, and the peasants had stood watching, utterly helpless. One old man had wrung his hands and burst into tears, the others had watched with hard eyes and firmly closed lips. Why did God send these storms? they asked, hadn't everything been done that could be done? Hadn't the Madonna been carried through the streets? It was certain that God was not at fault, it must be the church then that was responsible for this, the church and the saints and the priests. The male population of Campià swore and blasphemed with flashing eyes, and the women listened, awestruck, always ready to join in when they laughed in despair.

I felt I would not like to be in the priest's shoes at this crisis.

Hailstorms were often violent enough to make some sort of shelter welcome both to man and to beast. As the clouds dropped their burden, the plowman and the farmer would flee from the fields to the protection of a bank or overarching rock, and the wayfarer would search for a similar retreat²⁴. The shepherd would even risk the displeasure of a rural deity by driving his flock beneath a shrine²⁵.

It seems that one story about hail may excel another without transgressing the bounds of truth, but Charles Darwin did have some fear that the accuracy of the following paragraphs might be questioned²⁶:

September 16th <1833>.—To the seventh posta at the foot of the Sierra Tapalguen <south of Buenos Aires> . . . We were here told a fact, which I would not have credited, if I had not had partly ocular proof of it; namely, that, during the previous night hail as large as small apples, and extremely hard, had fallen with such violence, as to kill the greater number of the wild animals. One of the men had already found thirteen deer (*Cervus campestris*) lying dead, and I saw their *fresh* hides; another of the party, a few minutes after my arrival, brought in seven more. Now I well know, that one man without dogs could hardly have

²³Cyriax, 192-193 (see note 22, above). For a description of the religious services see Cyriax, 120-137.

²⁴Vergil, *Aeneid* 10.803-808. Compare Exodus 9.19.

²⁵Ovid, *Fasti* 4.755-756.

²⁶The Voyage of the Beagle, Chapter 6. The work may be found in Volume 29 of The Harvard Classics (New York, P. F. Collier and Son, 1909): see pages 127-128.

killed seven deer in a week²⁷. The men believed they had seen about fifteen ostriches (part of one of which we had for dinner); and they said that several were running about evidently blind in one eye. Numbers of smaller birds, as ducks, hawks, and partridges, were killed. I saw one of the latter with a black mark on its back, as if it had been struck with a paving-stone. A fence of thistle-stalks round the hovel <of the seventh posta> was nearly broken down, and my informer, putting his head out to see what was the matter, received a severe cut, and now wore a bandage. The storm was said to have been of limited extent: we certainly saw from our last night's bivouac a dense cloud and lightning in this direction. It is marvellous how such strong animals as deer could thus have been killed; but I have no doubt, from the evidence I have given, that the story is not in the least exaggerated. I am glad, however, to have its credibility supported by the Jesuit Dobrizhoffer²⁸, who, speaking of a country much to the northward, says, hail fell of an enormous size and killed vast numbers of cattle: the Indians hence called the place *Lalegraicavalca*, meaning "the little white things." Dr. Malcolmson, also, informs me that he witnessed in 1831 in India, a hail-storm, which killed numbers of large birds and much injured the cattle. These hailstones were flat, and one was ten inches in circumference, and another weighed two ounces. They ploughed up a gravel-walk like musket-balls, and passed through glass-windows, making round holes, but not cracking them.

Darwin's account is further supported by the words of a recent writer²⁹:

But it is hail—not wind, lightning, or torrential rain—which wrecks havoc. Big hailstones, pounding the farms like artillery fire, not only beat crops, fruits, and vegetables to pieces, but have been known to kill sheep, young cattle, and even horses.

Hailstorm and wind combined wreak terrible destruction:

... Thus on 22nd July 1911, when the thermometer had reached 93° Fahr. in the shade, a heavy hail-storm and furious wind fell on Rome and the surrounding country. Part of the zinc roof of the railway station was torn off, the column of Victory in the grounds of the Exhibition fell, and the wall of the Sardinian pavilion was much injured. When the storm passed away, Monte Gennaro, above Tivoli, the highest summit of the Sabine Hills and so conspicuous a landmark from Rome, presented an extraordinary appearance, being covered with hail and as white as in mid-winter³⁰.

Both in the United States and in Europe hail sometimes causes the death of human beings³¹, but, so far as

²⁷Compare Psalms 78.48 He gave up their cattle also to the hail...

²⁸Martin Dobrizhoffer, Jesuit missionary, lived for eighteen years (1749–1767) among Paraguay Indians, the Guarani and the Abipones. In 1784 he published, at Vienna, an important work, in three volumes, in Latin, entitled *Historia De Abiponibus. Equestris Belli-losaques Paraguariae Natione...*. In 1822, an English translation, by Sara Coleridge, of this work appeared in London, under the title, *An Account of the Abipones* (three volumes). For the matter referred to in the text see Dobrizhoffer, 2.14 (in the original Latin edition), 2.6 (in the English translation).

For another vivid account of a devastating hailstorm, in which, it is said, beasts and many shepherds were killed, see *The Memoirs of Benvenuto Cellini*, Book 2, Section 50 (the passage may be found conveniently in the translation by Anne Macdonell, in *Everyman's Library*, No. 51, 362–364 (London, J. M. Dent, 1925)). This storm occurred while the party of Cellini was a day's journey from Lyons. They "saw hailstones so big that you could not have spanned one with your two hands..."

²⁹F. Simpich, *Life on the Argentine Pampa*, *The National Geographic Magazine* 64 (1933), 476.

³⁰Sir Archibald Geikie, *The Love of Nature among the Romans During the Later Decades of the Republic and the First Century of the Empire*, 247–248 (London, John Murray, 1912). For an informative chapter called Hail and the Damage It Does see C. F. Talman, *The Realm of the Air: A Book about Weather*, 75–82 (Indianapolis, The Bobbs-Merrill Co., 1931).

³¹Talman, 78 (see note 30, above).

I have been able to learn, there are no convincing records of such a thing in ancient Greece or in ancient Italy. It is said that Mardonius was killed by a thick hailstone after Xerxes had sent him to plunder the holy shrine of Apollo at Delphi³². It is generally stated, however, that a thunderstorm prevented this sacrilege³³.

In Agobard's time (*circiter* 779–840) there were weather magicians (*tempestarii*) who claimed that they could destroy their enemies by hailstorms, but Agobard never heard anyone testify to having seen such an event³⁴.

According to Joshua 10.11 the Lord directed death-dealing hail against the Amorites:

And it came to pass, as they fled from before Israel, and were in the going down to Beth-horon, that the Lord cast down great stones from heaven upon them unto Azekah, and they died: they were more which died with hailstones than they whom the children of Israel slew with the sword.

Another passage from the Bible (Exodus 9.19) assumes that hail may cause great loss of life among both men and beasts:

Send therefore now, and gather thy cattle, and all that thou hast in the field; for upon every man and beast which shall be found in the field, and shall not be brought home, the hail shall come down upon them, and they shall die.

HAILSTONES CALLED MISSILES

Hail falls with such force that it may be designated, as the thunderbolt is³⁵, by names that are applied to missiles and weapons. Sometimes it seems as if it is thrown, as the words *χαλαζαβόλος*³⁶ and *χαλαζαβόλειος*³⁷ suggest. The word *saxa* is used to describe a hailstorm which fell upon Caesar's legionaries³⁸. In Aristophanes³⁹ the Clouds threaten to ply their slings against the scornful. The word 'slings' is appropriate, because, as the scholiast states, hail is like a stone. In another source⁴⁰ the clouds are said to 'javelin' hail and measureless rain. In the *Orphic Lithica*⁴¹ the terrible hail with its countless missiles inflicts a 'wound' upon a field.

A great tribute is paid to the power of hailstorms when missiles are compared to them. As Mago was approaching the larger of the Balearic Islands, in 206 B. C., so great a number of hailstones poured upon him that he did not dare to enter the harbor⁴². In an extended simile in the *Aeneid* weapons striking about Aeneas are likened to beating hail⁴³.

THE MUSIC OF HAIL

In spite of the losses caused by storms some ears heard music in them. We are told that Vergil's verse⁴⁴,

³²Ctesias, *Persica* 56. See Friedrich Reuss, *Ktesias' Bericht über die Angriffe der Perseer auf Delphi*, *Rheinisches Museum* 60 (1905), 144–147.

³³See Herodotus 8.35–39, and C. W. 25.213 C.

³⁴De Grandine et Tonitrus 7 (Migne, P. L., 104.151).

³⁵See C. W. 25.215, note 480. ³⁶Plutarch, *Moralia* 499 F.

³⁷Greek Anthology 5.64; Clemens Alexandrinus 6.3.31 (Migne, P. G., 9.248).

³⁸Bellum Africanum 47.1. ³⁹The Clouds 1125.

⁴⁰Pseudo-Justinus, *Quaestiones et Responsiones ad Orthodoxos* 31 (Migne, P. G., 6.1277).

⁴¹597–598. This work may be conveniently consulted in *Orphica*, edited by E. Abel (Leipzig, Freytag, and Prague, Tempsky, 1885).

⁴²Livy 28.37.7. Compare Ovid, *Metamorphoses* 5.158 *Tela volant hiberna grandine plura...*; Silius Italicus 2.38 et *densa resonant saxorum grandine tures*. ⁴³O. 802–809.

⁴⁴Georgics 1.449. Compare Apollonius Rhodius 2.1083–1086.

tam multa in tectis crepitans salit horrida grando, is "A vivid sound-imitation of the hailstorm"⁴⁵, and we are advised to "Note the accommodation of sound to sense:—so thickly rattling on the roofs dances the bristling hail!" ⁴⁶

Another effective passage about hail is to be found in Horace⁴⁷: *Iam satis terris nivis atque dirae grandinis misit pater....* The repetition of *-is* here is effective, whether it suggests "the fierce persistency of the storm"⁴⁸, or imitates "the wearisome *whistling* of the wind in stormy weather...."⁴⁹ Perhaps we may hear the thud of striking hailstones in the forms of *contundo* which are in the perfect tense, for example, in *haud quia grando contuderit vites....*⁵⁰

Columella⁵¹ vividly pictures Jupiter as grandine dilapidans hominumque bouisque labores.... Of this verse it has been well said⁵² that "The succession of dactyls, together with the alliteration, suggests the rapid beating of the hailstones on the standing crops...."

Even the language of a legal document, Codex Theodosianus⁵³, might become picturesque in describing the effect of a destructive hailstorm upon ripe grapes:... ne...ruentis grandinis lapidatione <uvae> quatenruntur.

SIGNS OF HAIL

We have records of a few signs of the advent of hail. One of them is provided by

...live coals, when they outwardly brightly shine, but in their center appears, as it were, a hazy mist within the glowing fire⁵⁴.

A long-range forecast is given by Theophrastus⁵⁵:

...If at the beginning of winter there is dull weather followed by heat, and these conditions are dispersed by wind without rain, it indicates that towards the spring there will be hail.'

It was supposed that on the fourteenth of May the wind from the West would be mixed with hail. The mariner was advised to steer for a safe harbor on that day⁵⁶. The winds Aparetias, Thracias, and Argestes brought hail⁵⁷. A passage from Vergil⁵⁸ seems worthy of inclusion here:

...quam multa grandine nimbi in vada praecipitant cum Iuppiter horridus austris torquet aquosam hiemem et caelo cava nubila rumpit.

Agobard makes the interesting statement that snow occurs in winter and hail in summer when the clouds are higher than usual⁵⁹. He says also that no one has ever seen hail without rain⁶⁰.

⁴⁵A Sidgwick, P. Vergili Maronis Opera, 2.65 (Cambridge: At the University Press, 1894). For other references to the striking of hail on roofs see Aristophanes, *Clouds* 1127; Seneca, *Epistulae Morales* 5. 4. 9; Apollonius Rhodius 2.1084.

⁴⁶T. E. Page, P. Vergili Maronis Bucolica et Georgica, 235 (London, Macmillan, 1898).

⁴⁷C. L. Smith, *The Odes and Epodes of Horace*, 7 (Boston, Ginn, 1903).

⁴⁸T. E. Page, Q. Horatii Flacci Carminum Libri IV, 136 (London, Macmillan, 1886).

⁴⁹Horace, *Epistulae* 1.8.4-5. ⁵⁰10.330.

⁵⁰H. B. Ash, *L. Iuni Moderati Columellae Rei Rusticae Liber Decimus: De Cultu Hortorum: Text, Critical Apparatus, Translation, and Commentary*, 105 (Philadelphia, 1930). This is a University of Pennsylvania dissertation.

⁵¹Aratus, *Phaenomena* 1041-1043. I give the translation by G. R. Mair, in *The Loeb Classical Library*. See also Th., *De Signis* 25.

⁵²De Signis 56. ⁵³Ovid, *Fasti* 4.625-626.

⁵⁴Th., *De Signis* 36. ⁵⁵Aeneid 9.669-671.

⁵⁶De Grandine et Tonitruis 8 (Migne, P. L., 104.153).

⁵⁷Ibidem, 7 (Migne, P. L., 104.151).

Presumably there were persons who could distinguish hail clouds from other clouds. Among them were doubtless the hail guards of Cleonae, who had to be able to detect hail clouds in order to take the proper prophylactic measures against them⁶¹.

The approach of a heavy glowing cloud meant a hail storm, a 'white storm', as it was called⁶². Vergil⁶³ says that, when the rays of the sun scatter through dense clouds at dawn or when Aurora rises with a yellow⁶⁴ light, the vines will not give the grapes enough protection from hail.

The color of clouds was another test applied by some persons. Seneca⁶⁵ pokes fun at the Stoics for believing that there were persons skilled enough to use color in identifying clouds which portended hail.

At the beginning of the eighteenth century hail clouds were recognized by their colors, according to the following quotation⁶⁶:

If the *Clouds* look Fleecy, Dusky, White inclining to Yellow, and move but Heavily, tho' the Wind be pretty Rough, the Vapours composing them are engender'd and frozen, and ratling Hail ensues.

If the *Clouds* appear of a *Whitish Blue*, and expand much, it will be small Hail or Drisling (*i. e.* frozen Mists); for that happens in the Winter or Spring, when it cannot be carried High enough to be condens'd by a greater Quantity of Cold, because the refracted Rays of the Sun are but weak, and this appears a Curdling in the *Clouds* as they Rise, and in Appearance expand themselves.

White Clouds in the Summer-time are a Sign of Hail, but in Winter-time they are a Sign of Snow, especially when we perceive the Air to be a little Warm, occasion'd by some Warm Eruptions out of the Clouds.

Peasants in Umbria have their own ways of trying to identify hail clouds. Among the signs are a whirling motion of the clouds, their rather great height, their colors, since they are of a grayish lead color below and of a gleaming white above, and their form, which resembles the great waves of the ocean. There is also the kind of cloud called 'priest's hat'⁶⁷. It is described by Italian meteorologists as 'anvil-shaped'.

The heavenly bodies, too, gave indications in regard to hail. Some stars were associated with moisture in the form of rain and others with moisture converted into frost, hail, or snow⁶⁸. The rising of the Kids and Arcturus caused hail to accompany rain⁶⁹. Arcturus brought hailstorms when it rose on the Ides of September⁷⁰. When the Dog-star rose in Taurus, there would be hail and other evils⁷¹.

The signs of the zodiac exercise influence upon the weather. Aries scatters above gloomy heights clouds that are saturated with hail and snow⁷². Pisces causes the earth to be beaten with hail⁷³.

⁵⁸See C. W. 23.4 B. ⁶⁰Pliny 18.356.

⁵⁹Georgics 1.445-449. Compare Pliny 18.342, where signs from the rising sun are given: *Purus oris atque non fervens serenum diem nuntiat, at hibernam pallidus grandinem.*

⁶⁰T. E. Page, 235 (see note 46, above), in a note on Vergil, Georgics 1.445-446 *pallida surget Tithoni croceum linquens Aurora cubile*.... concludes that a yellow light is described by *pallida*.

⁶¹Naturales Quaestiones 4.6.1.

⁶²John Pointer, *A Rational Account of the Weather*, 109-110 (London, Printed for Aaron Ward, at the King's Arms in Little-Britain, 1738).

⁶³Bellucci, 44-46. ⁶⁴Bede, *De Natura Rerum* 11.

⁶⁵Lydus, *De Ostentis* 7.

⁶⁶Bede, *De Natura Rerum* 11.

⁶⁷Geoponica 1.8.11.

⁶⁸Prog. Rel. 2.1-2 (Breysig, 43). ⁶⁹Ibidem, 2.22 (Breysig, 43).

Planets, too, have weather associations. They indicate various things according to the signs of the zodiac in which they happen to be⁷⁴. Saturn in Scorpio brings hailstorms⁷⁵, as does Mercury⁷⁶. When Mercury is in Aries, wrathful hailstorms will be persistent⁷⁷. Its departure from the curved horns of Taurus is attended by hail⁷⁸. Hail will fall when Venus is in Aquarius⁷⁹ or in Aries⁸⁰, and will be severe if it is above Scorpio⁸¹.

Jupiter passing through the signs of the zodiac gives indications of all kinds of weather⁸². A few of the signs relate to hail. When Jupiter is in Taurus in the home of Venus, there will be much hail during the year⁸³. When it is in Gemini in the home of Hermes, hail will cause damage⁸⁴. When it is in Cancer in the home of Luna, the winter will be cold and there will be hail and dark weather, and after the spring equinox showers of hail will occur⁸⁵. There are still other signs given by Jupiter in various parts of the zodiac⁸⁶.

In the *Catalogus Codicum Astrologorum Graecorum*⁸⁷ 'brontological' and astrological signs of hail are numerous. A few examples will suffice.

Thunder in July signifies hail⁸⁸. If thunder and lightning occur while the moon is in Aquarius, much hail will fall in the land of the Saraceni⁸⁹. If the moon is waning while it is in Virgo, in the month of August, hail will fall in abundance⁹⁰.

If the moon is in Aries on June 15, there will be mist, thunder, hail, and damage to trees from violent winds⁹¹. If it is in Taurus on July 20, there will be snow and much hail in some places⁹². If a mist falls in the month of December while the moon is in Sagittarius, hail will destroy the crops⁹³.

Signs of all kinds of weather are given in these astrological catalogues. They doubtless reflect the desire of astrologers to cater to the interests of the agricultural population.

MAGIC, RELIGION, AND HAIL

Since hail was so destructive, it was natural for the ancients to resort to any means which afforded the slightest prospect of protection against it. Pausanias⁹⁴ had seen men employing sacrifices and spells against hail, but he does not preserve the formulas they used. In Italy, too, incantations, which in some respects are not unlike prayers, were frequently used in an effort to avert hail, but, whereas the prayers uttered at the Suovetaurilia were beautiful and dignified, the incantations against hail with which Pliny⁹⁵ was familiar were so obviously trivial and unworthy of consideration that he would not repeat them. His refusal to

⁷⁴*Ibidem*, 2.23-28 (Breysig, 44).

⁷⁵Servius on Vergil, *Georgics* 1.336. Compare Prog. Rel. 2.27 (Breysig, 44).

⁷⁶*Ibidem*, 3.114-116 (Breysig, 51).

⁷⁷*Ibidem*, 3.119-120 (Breysig, 51).

⁷⁸*Ibidem*, 3.71 (Breysig, 48). ⁷⁹*Ibidem*, 3.81 (Breysig, 49).

⁸⁰*Ibidem*, 3.61-65 (Breysig, 48). ⁸¹Geoponica 1.12.

⁸²*Ibidem*, 1.12.11. Compare Prog. Rel. 3.147-148 (Breysig, 53).

⁸³Geoponica 1.12.17. ⁸⁴*Ibidem*, 1.12.18.

⁸⁵*Ibidem*, 1.12.24, 28, 29, 38.

⁸⁶Brussels, H. Lamertin, 1898 (Ten volumes of the *Catalogus*... Graecorum have appeared. Others are to be published).

⁸⁷Catalogus... Graecorum, 8, Part 3, 124. ⁸⁸*Ibidem*, 167.

⁸⁹*Ibidem*, 170. ⁹⁰*Ibidem*, 7.183. ⁹¹*Ibidem*.

⁹²*Ibidem*, 8, Part 3, 187. ⁹³2.34-3.

⁹⁴17.267... mira quaedam excogitata sollertia humana, quippe cum averti grandines carmine credant plerique, cuius verba in serere non equidem serio ausim.... See also 28.29, 37.124.

incorporate them in his work places them low in the scale of respectability.

Doubtless the figurative language in the epigram which attributed to the bard Orpheus the power of lulling to sleep the howling winds and the hail and the drifting snow and the roaring sea was suggested by the belief in incantations⁹⁶.

Pythagoras had the reputation of being able to quell violent winds and hailstorms, but we are not informed how he did it⁹⁷.

Part of a Christian charm against hail and storms in general, written in a ninth-century hand, runs as follows⁹⁸:

... Conjurō vos conjurō vos conjurō vos demones, Satane, per Patrem et Filium et Spiritum sanctum, et vos conjurō per Trinitatem et sanctam Mariam ☩, conjurō vos per omnes angelos et archangelos, conjurō vos per quatuor evangelistas Matheum Marcum Lucam et Iohannem, conjurō vos per omnes sanctos Dei, ut non habeatis potestatem in isto loco, in campis istis aut in uvis istis petras admittere nec tempestatem ascendere nec descendere nec pluviam valentissimam nocentem. Sedite et discedite in desertum locum vel in mari ut non habeatis potestatem nullum malum hic facere....

The ability to control all kinds of weather was attributed to Empedocles⁹⁹. Among his powers was that of causing hail and wind to cease¹⁰⁰. Medea was another weather wizard. She could drive away clouds¹⁰¹. This doubtless means that she could prevent both hail and excessive rain.

When threatening clouds were approaching, fires were burned in vineyards in order to dispel them¹⁰². Perhaps the smoke made it unpleasant for the demons of the clouds¹⁰³.

A mixture of sulphur, bitumen, juice of panax, acanthus, galbanum, salt, and many other things was ignited to accomplish magical results, among them the putting to flight of demons and the preventing of hailstorms. The virtue of the concoction is ascribed to its odor¹⁰⁴.

Could a heavy smoke screen, even if formed with the aid of bitumen, have been of any possible value in shielding a vineyard or other plot from hail? Ancient vineyardists saved their crops from frost by burning straw and dried manure¹⁰⁵. California orchardists burn a heavy crude oil among their orange and lemon groves on cold nights. Without attempting to answer the question I have raised I quote from an article called *Forests and Forestry*¹⁰⁶, in the *Encyclopaedia Britannica*¹⁰⁷:

... The difference in the temperature of the air in the forest and open field is the cause of air currents from the forest into the field and reverse. These movements facilitate the formation of dew and fogs over fields ad-

⁹⁵Greek Anthology 7.8.

⁹⁶Jamblichus, *De Vita Pythagorica* 1.35.

⁹⁷S. B., *Un Sermon sur la Superstition*, in *Mélusine, Recueil de Mythologie, Littérature Populaire, Traditions et Usages*, 3 (1886-1887), 219. This incantation was found "sur les gardes d'un manuscrit des Épîtres de saint Paul qui provient peut-être de Luxeuil (Bibl. Nat. de Paris, Ms. lat. 10, 440)".—I have been unable to identify "S. B."

⁹⁸See Fiedler, 22, where many references are given.

⁹⁹Jamblichus, *De Vita Pythagorica* 1.35.

¹⁰⁰See C. W. 18.156 C. ¹⁰¹Pliny 18.293; Palladius 1.35.1.

¹⁰¹See Fiedler, 27.

¹⁰²Vegetius, *Ars Veterinaria Sive Mulomedicina* 1.20.1-3.

¹⁰³See C. W. 17.108 D. ¹⁰⁴By R<aphael> Z<on>.

¹⁰⁵Fourteenth edition, 14.500.

joining forests. In the spring and autumn, these fogs save the fields from early frosts and in the summer from damage by hail. Repeatedly and in different countries it has been observed that forests prevent hail falling over the fields adjoining the forest. Coniferous forests have the greatest effect in deflecting hail storms. Statistics collected for 20 years, from 1877 to 1897, by a company insuring against hail, confirm the fact that forestless regions are subject to hail storms very frequently, while in forested regions hail storms are of very rare occurrence.

Stones, too, were employed against hail¹⁰⁸. In the complex concoction which was burned to drive away demons and hail¹⁰⁹ there were included numerous objects described as *lapides*, for example, gagates, haematinas, siderites, and argyritis.

There was a stone called chalazites, which the finder was advised to keep. If one were to strike it with iron in the direction in which a hailstorm was coming, the storm would be turned away¹¹⁰. Doubtless the noise was supposed to frighten the demons of the storm¹¹¹, but iron itself was efficacious; there was a common belief that demons feared it¹¹².

Pliny¹¹³ holds up to ridicule *magi* who believed that they could drive away hail and do other things by the aid of amethysts if a prayer (doubtless an incantation) should be added.

Noise made by striking bronze was regarded as effective in driving away the demons that were devouring the sun and the moon during eclipses¹¹⁴. Noise was employed also, to some extent, against thunder¹¹⁵. I do not know when the use of bells against hail began, but the custom of baptizing them and ringing them to drive away demons of the storm had become firmly fixed by Charlemagne's time, for a Capitulary of his forbids the practice¹¹⁶.

From the Middle Ages to the present time sacred and consecrated bells have been used in Europe to drive away storms¹¹⁷. An inscription on a bell at Hasle in Switzerland reads: "A fulgure grandine et tempestate libera nos domine Jesu Christe"¹¹⁸. In the Province of Umbria in Italy there are bellmen whose duty it is to ring the bells not only to put storms to flight, but to summon the inhabitants to vigilance and prayer. Hail can be kept out of the territory of a parish if the bell is sounded in time. Obviously the responsibility

¹⁰⁸C. W. 18.163 D.

¹⁰⁹See the text connected with note 104, above.

¹¹⁰Geoponica 1.14.1. I am using here the reading of the edition of the Geoponica by Peter Needham (Leipzig, 1781), which is entirely different from the reading given by H. Beckh (Leipzig, Teubner, 1895).

¹¹¹See Fiedler, 28, 30, 91.

¹¹²Scholiast Q on Homer, Odyssey 11.48. 113.37.124.

¹¹³See K. P. Smith, The Elegies of Albius Tibullus, 347-348 (New York, American Book Company, 1913).

¹¹⁴See C. W. 25.207 C.

¹¹⁵Monumenta Germaniae Historica, Legum Sectio II, Capitula Regum Francorum, volume 1, page 64, line 26: Ut clocas non baptizent nec cartas per perticas appendant propter grandinem. This is explained as follows at the foot of the page: "Ne campanarum baptismata propter grandinem avertendam fiat et ne cartae quibus signa vel verba magica inscripta sunt in arboribus vel perticis appendantur".

¹¹⁶See the example in the long quotation in C. W. 25.208 A. Compare Leland, 217 (see note 144, below); Stempflinger, 86 (see note 118, below); A. D. White, A History of the Warfare of Science with Theology in Christendom, 1.345 (New York, Appleton, 1896).

¹¹⁷See E. Stempflinger, Antike Aberglaube in Modernen Austrahlungen, 86 (Leipzig, Dietrich, 1922). Stempflinger is indebted to Carl Meyer, Der Aberglaube des Mittelalters und Nachstfolgenden Jahrhunderte, 185-186 (Basel, F. Schneider, 1884), where numerous examples of such things are given. Some bells are especially efficacious. On the varying virtues of bells see Bellucci, 55-60.

of the bellman is heavy. He is blamed for damage to crops when he is tardy or is supposed to have been tardy. The successful watcher is rewarded with heaps of produce for himself and his family, but in case of failure he dares not risk his well-being among disappointed harvesters, from whom he would receive nothing but threats and insults¹¹⁹.

On reading of the perils of this office I suspected that the occupation of the hail guards in antiquity was not an enviable one, but I was surprised to find a record to that effect. Seneca¹²⁰ tells us that Cleonae was strict in dealing with warders through whose negligence vineyards had been beaten down and crops destroyed.

For several centuries explosives have been used in Southern Europe in an effort to protect vineyards from hail¹²¹. According to an item in The Ann Arbor Daily News, September 12, 1928, there are still scientists who think that shooting may be made effective for such purposes:

Swiss scientists recently fired high explosive rockets at the clouds to discourage a hailstorm that was headed for the crops along the Swiss-French frontier. Observers differed as to the value of this means of defense after the bombardment was over.

A more informative passage is to be found in a book on Italian private life¹²²:

... Hail is another curse to the Italian farmer, especially in the North. A hail-storm lasting half an hour may destroy the fruits of months of labour, and its ravages are so extensive that hitherto insurance companies have refused to insure against it. But it is believed that a preventive has at last been found. Cannons shaped like sugar-loaves, loaded with a special kind of pyrite powder, are discharged when storms are threatening, and the hail descends in consequence in the form of fine snow or sleet. Syndicates subsidised by the Government have been formed in the districts most affected, to purchase the necessary implements. In stormy weather a stranger in Northern Italy would think himself on a battle-field from the noise of artillery which he hears all around him.

It seems that grapes were in special danger from the elements between the time when they were fully formed and the vintage. Varro¹²³ wanted the rustic Vinalia on August 19 set apart for religious services to lessen the power of storms. W. Warde Fowler¹²⁴ is inclined to think that the *auspicatio vendemiae* is to be associated with this festival.

Ceremonies like that of the Auspicatio, intended to avert from crops the perils of storm or disease, are known sometimes to take place when the crops are still unripe.

¹¹⁹Bellucci, 49-53. In the text I am retaining the present tense of my source, since there is no reason to believe that there has been any change in the customs of the peasants since Bellucci published his book in 1903.

¹²⁰Naturales Quaestiones 4.7.2.
¹²¹Bellucci, 65-72; Sir James G. Frazer, Journal and Proceedings of the Royal Society of New South Wales, 16 (1882), 12; E. Samter, Volkskunde im Altsprachlichen Unterricht: I. Teil, Homer, 86 (Berlin, Weidmann, 1923); Talman, 80 (see note 30, above). A battery of five curious cannon for use against hailstorms is illustrated by Free and Hoke, on the Plate facing page 288 (see note 5, above).

¹²²aSee Luigi Villari, Italian Life in Town and Country, 61-62 (New York, Putnam's, 1902).

¹²³As quoted by Pliny 18.289.

¹²⁴The Roman Festivals of the Period of the Republic, 205-206 (London, Macmillan, 1916). On page 206 Fowler quotes Vergil, Georgics 2.419 et iam maturis metuendus Iuppiter uvis. Codex Theodosianus 9.16.3 is not less informative: Nullis vero criminationibus implicantia sunt remedia humanis quae sita corporibus aut in agrestibus locis ne maturis vendemis metuerentur imbres aut ruentis grandinis lapidatione quaterentur.

In the fruit belt of Michigan religious services for the welfare of fruit take place still earlier, for there is a blossom-week festival during which the blossoms of the trees are blessed. In The Detroit Evening News, July 6, 1930, it was stated that ministers "prayed for a bountiful harvest, for gentle south winds, for soft warm rains, for protection from blight".

Among the many uses of the magical circle was the averting of bad weather. As the circuit of the fields was being made at the Suovetaurilia, the participants invoked Mars to keep away calamities and storms¹²⁴. Doubtless hail and excessive rainfall were uppermost in the minds of the farmers who wanted protection from the elements. In fact the *nebula*, which doubtless includes the hail cloud, is one of the evils which are specifically mentioned as objects of dread¹²⁵.

Binding one grape vine with a leather thong might protect an entire vineyard¹²⁶. The material, obtained perhaps from the skin of a seal¹²⁷, may have been the chief magical power in this form of protection, but the form, that of a circle, may have been of some aid¹²⁸.

I have listed elsewhere¹²⁹ many other ways of averting hail, including those from the *locus classicus*, *Geponica* 1.14, where there occurs a summary of ancient practices. There is no need to repeat anything from this chapter, especially since it has been discussed at length in two articles by a German scholar¹³⁰.

(To be continued)

UNIVERSITY OF MICHIGAN

EUGENE S. McCARTNEY

"THERE WERE GIANTS IN THE EARTH IN THOSE DAYS"

VERGIL, GEORGICS 1.493-497

Near the end of the first book of the Georgics Vergil speaks sorrowfully of the Roman blood needlessly shed in the civil strife of his day and of the later times when farmers, tilling their fields, would turn up the weapons and the huge bones (*grandia ossa*) of the slain (493-497):

Scilicet et tempus veniet cum finibus illis
agricola, incurvo terram molitus aratro,
exesa inveniet scabra robigine pila,
aut gravibus rastris galeas pulsabit inanes,
grandiaque effossis mirabitur ossa sepulcris.

The possibility thus foretold has been turned into reality by a discovery recently made in Southern Italy and reported in a brief news item in The New York Herald Tribune (June 2, 1934):

¹²⁴Cato, *De Agri Cultura* 141.2.

¹²⁵Festus 230 (W. M. Lindsay's edition: Leipzig, Teubner, 1913): Avertas morbum, mortem, labem, nebulam, impetiginem.

¹²⁶Philostratus, *Heroica* 77.

¹²⁷Fehrle, *ΣΤΟΙΧΕΙΑ*, 17 (see note 130, below). See also *Geponica* 5.23.7-8.

¹²⁸See S. Eitrem, *Opferritus und Voropfer der Griechen und Römer*, 18 (Christiania, Jacob Dybwad, 1915).

¹²⁹See C. W. 16.6 C-D, 18.157 B, 163 A, B, 23.4 B.

¹³⁰E. Fehrle, *Antiker Hagelzauber*, *Alemannia* 40 (1912), 13-27, and *Studien zu den Griechischen Geponikern*, 7-26 (*ΣΤΟΙΧΕΙΑ*, *Studien zur Geschichte des Antiken Weltbildes und der Griechischen Wissenschaft*, Heft III [Leipzig, Teubner, 1920]).—The full title of *Alemannia* is *Alemannia, Zeitschrift für Alemannische und Frankische Volkskunde, Geschichte, Kunst, und Sprache*. The reference I give in this note might also be given as Series 3, Volume 4, but 40 is the number on the backstrip, and also the most prominent number on the title-page.

Peasants ploughing near Potenza in Southern Italy found the skeleton of a soldier still wearing his helmet and the medal he won in the Second Punic War of 200 B. C. The medal is inscribed *Scipio Africanus* on one side and *Hannibal Punicus* on the reverse, showing that the warrior fought for the Roman *Scipio* who, having conquered Hannibal the Carthaginian, took to himself the name of *Africanus*. The man was nearly seven feet tall, as his skeleton proved before it crumbled into dust at the touch of the fresh air. All that then remained were the embossed helmet and the medal.

WESLEYAN UNIVERSITY,
MIDDLETOWN, CONNECTICUT

JOHN W. SPAETH, JR.

CLAUDIANUS, DE BELLO GOTHICO 546-547

Claudianus, *De Bello Gothicus*, runs as follows:

Rumpe omnes, Alarice, moras; hoc impiger anno
Alpibus Italiae ruptis penetrabis ad urbem.

This is the prophecy which a clear voice, coming from a grove, proclaimed, it was said, to Alaric. J. Koch, the most recent editor of the complete works of Claudianus (Leipzig, Teubner, 1893), noticed that the first and the last letters of the first verse, followed by the last and the first letters of the second verse, spell ROMA. He therefore printed the verses with the two final letters capitalized.

When I considered these verses carefully, I noticed another fact. If the first verse is divided into three equal parts (of twelve letters each), each part will be found to contain the anagram of ROMA: Rumpe OMnes Alarice MORAs ho c iMpiger AnnO.

We must conclude either that we are dealing with a quadruple coincidence, or, what is more likely, that Claudianus amused or interested himself by working the name of his beloved adopted city thrice into one verse, and four times into the couplet as a whole.

HUNTER COLLEGE

HARRY L. LEVY

CLASSICAL ARTICLES IN NON-CLASSICAL PERIODICALS

I

Mercure de France—April 15, *Lettres Néo-Grecques*, Démétrius Astériotis; June 1, *D'Eschyle à Edgar Poe, ou les Progrès de la Biographie Scientifique*, André Fontainas; June 15, *Lettres Antiques*, Mario Meunier [this contains favorable reviews of Peter C. von der Horst, *Les Vers d'Or Pythagoriciens*, François Richard and Pierre Richard (translators), Sénèque: *Lettres à Lucilius*, and J. Tricot (translator), Aristotle: *Metaphysique*].

Modern Language Notes—February, Chaucer and the 'Pervigilium Veneris', J. E. Hawkins [there is "at least a probability that Chaucer knew and used the *Pervigilium Veneris*" for the opening passage of the *Canterbury Tales*]; May, Review, qualifiedly favorable, by Kemp Malone, of H. M. Chadwick and N. K. Chadwick, *The Growth of Literature*, Volume I: *The Ancient Literatures of Europe*; June, A Source for <Thomas Preston's> *Cambyses*, Don C. Allen ["There is no evidence in *Cambyses* that Preston went to Athenaeus, but all of the events that he

mentions can be found in Herodotus's lengthy account of Cambyses. In spite of this fact, there is strong evidence in Preston's play that he . . . found his material in a contemporary historical work . . .", Carion's "handy pocket-history of the world, published in 1550"]; Review, unfavorable, by H. R. Patch, of Charles B. Lewis, Classical Mythology and Arthurian Romance: A Study of the Sources of Chrestien de Troyes' "Yvain" and Other Arthurian Romances.

The Modern Language Review—April, Brief review, favorable, by B. E. C. D., of Henry G. Lotspeich, Classical Mythology in the Poetry of Edmund Spenser.

The Nation—June 13, Review, qualifiedly favorable, by Mary McCarthy, of Robert Graves, I, Claudius; June 27, Review, favorable, by Edith Hamilton, of Cecil F. Lavell, A Biography of the Greek People; Review, generally favorable, by Edith Hamilton, of Robert J. Bonner, Aspects of Athenian Democracy.

La Nouvelle Revue Français—May, Perséphone: Mélodrame, André Gide; Review, generally favorable, by Jean Prevost, of <Jérôme> Carcopino, Points de Vue sur l'Impérialisme Romain; Review, qualifiedly favorable, by Jean Prévost, of Christian Zervos, L'Art en Grèce; June, Sémiramis: Mélodrame, Paul Valéry.

Nuova Antologia (Rome)—May 16, Colonia Aurelia Antoniniana Europos: Ellenismo e Romanità sulle Rive dell' Eufrate, Roberto Paribeni [the article discusses the recent discoveries at Dura Europos].

Political Science Quarterly—March, Approaches to History, V, Vladimir G. Simkhovitch [this long article, accompanied by nine photographic illustrations, discusses the shifting of attitudes toward Greek art. "Here is a case where the material of necessity remains identically the same, but not so its history . . ."]; June, Review, favorable, by C. J. Kraemer, Jr., of The Cambridge Ancient History, Volume IX.

Publications of the Modern Language Association of America—June, The Direct Source of the Pamela-Cecropia Episode in the *Arcadia*, Constance M. Syford [Sidney's direct source for this episode is shown to have been "several theosophic essays" of Plutarch's *Moralia*, notably *De Iside et Osiride*. "The conclusion that Sidney shows direct inspiration, in the Pamela-Cecropia episode, from these five or six essays of the *Moralia* does not deny the contributive influence of other sources, held aside, only, in the mind, and not directly before him, as I believe that *Moralia* was, whether on the actual pages or in

the mental background. These other influences are, in my conviction, Lucretius and Cicero, but Du Plessis Mornay least, if at all. And not in mere spirit of 'courtesy', but in that of truth and scholarship, need we grant a 'dwindling residuum' to Lucretius and to the *De Natura Deorum*, perhaps even to the *Tusculan Disputations* of Cicero. . . . To anyone familiar with Sidney and with Sidney's mind, his eclecticism is clearly and gloriously manifest. Despite recent scholarship attempting to disprove it, or ignore it, Sidney's familiarity with Empedocles, (whether via Du Plessis Mornay or via anyone, or direct) with Lucretius, with Cicero, and, indeed, with Plato and Aristotle, is axiomatic"]; The Philosophy of Spenser's "Garden of Adonis", Brents Stirling [the author hopes that Spenser "may be returned to native English shores. Should the conclusion of this <long> article be epitomized in the statement that Spenser was a second-rate philosopher, that he was a popularizer of already popularized material, no great loss is suffered. His metaphysical poetry may still be read, its simple and direct message gathered, and its charm enjoyed without a ruinous gloss ranging from Empedocles to the refiners of Platonism". The sub-headings are as follows: I, The Question of a Lucretian Influence; II, Spenser's Conception of Substance and Form; III, The Neo-Platonic Hierarchy; IV, Alleged Contradictions in the Adonis Episode; V, The Allegory of Venus and Adonis; VI, The Scheme of the Garden]; Thomson and Voltaire's *Socrate*, Rose M. Davis.

Revue de l'Histoire des Religions—January-February, Mithra et l'Orphisme, Franz Cumont [the article, accompanied by one photographic Plate, discusses three Mithraic inscriptions found in Rome a few years ago]; Les *Castores "Conservatores"* Assesseurs du Jupiter Dolichenus, Ch. Picard [the article is accompanied by one photographic Plate and four Figures in the text]; Review, favorable, by Fr. Cumont, of M. Della Corte, I. MM. Lorei Tiburtini di Pompeii.

Revue des Questions Historiques—January, Camille Julian, by Maurice Toussaint; Review, favorable, by M. B., of A. Rey, La Jeunesse de la Science Grecque; March, Brutus, ou l'Apprentissage du Tyrannicide, Gerard Walter [III. Brutus et Ciceron; IV. De Pompée à César]; Review, favorable, by Maurice Toussaint, of Albert Grenier, Manuel d'Archéologie Gallo-Romaine, Tome II: L'Archéologie du Sol, Partie I: Les Routes.

WESLEYAN UNIVERSITY
MIDDLETON CONNECTICUT

JOHN W. SPAETH, JR.